

ITIN, Ya.L.

Lowering construction costs by efficient planning. Prom.stroi.  
37 no.10:11-13 0 '59. (MIRA 13:2)

1. Gosudarstvennyy institut tipovogo proyektirovaniya i tekhnicheskikh issledovaniy.  
(Construction industry--Costs)

ITIN, Ye. B.

Organization and supply of cutting tools in automatic lines.  
Avt. prom. 29 no.5:3-4 My '63. (MIRA 16:4)

1. Nauchno-issledovatel'skiy tekhnologicheskii institut  
avtomobil'noy promyshlennosti.

(Machine-shop practice)

ITIN, Z. Ye.

ITINA, A.I.; ITIN, Z.Ye.; GUTNER, Ya.I.; ARKHANGEL'SKAYA, N.V. (Moskva)

Conduction anesthesia of the lower jaw administered in the retromolar  
fossa (retromolar anesthesia). Stomatologiya 37 no.2:32-35 Mr-Apr  
'58. (MIRA 11:5)

(LOCAL ANESTHESIA)

ITINA, A.I.; ITIN, Z.Ye.; GUTNER, Ya.I.; ARKHANGEL'SKAYA, N.V. (Moskva)

Conduction anesthesia of the lower jaw administered in the retromolar fossa (retromolar anesthesia). Stomatologiya 37 no.2:32-35 Mr-Ap '58. (MIRA 11:5)

(LOCAL ANESTHESIA)

ITINA, G. A., Senior Scientific Worker of the NIILVA Cand. Tech. Sci.

Dissertation: "Accelerated Methods for Bleaching and their Influence on the Washing R  
Resistance of Flax Fabrics." Moscow Textile Inst, 15 May 47.

SO: Vechernyaya Moskva, May, 1947 (Project #17836)

ITINA, I. A.

36948. FREYDOVICH, G. M., LYKOV, S. S. i ITINA, I. A. Nekotoryye funktsii organa zreniya u bol'nykh gipertonicheskoy ionizatsiyey. - V ocl. 3-y avt: Itina I.A. Trudy Uzbek. gos. nauch. - issled. in-ta kurortologii i fizioterapii im. Semashko, sb. 11, 1949, s. 203-07.

SO: Letopis' Zhurnal'nykh Statey, Vol. 50, Moskva, 1949

ITINA, L. S.

1. ROOS, L. V., ALYABEV, V. I., Eng., ITINA, L. S., Eng., TRETIN, A. M., Eng.
2. USSR (600)
4. Lumbering
7. Centralized electric power supply at the Iakshanga lumber combine. Mekh. trud. rab. 7, No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

*ITINAI, L. S.*  
ITANAI, L. S.

7675. ITINAI, L. S. -- Tsentralizovannoye elektrosnabzheniye na lenoragotovkakh.  
M-L., Goslesbumizdat, 1954. 108 S. S ill. 22 sm. 5.000 ekz. 3R. 5K.-- Pered  
zagl. avt: L. V. Roos, V. I. Alyab'yev, M. Ye. Boldov, L. S. Itinai, Al M.  
Tsetlin.--Bibliogr. V. kontse knigi --(55-3887) P  
634.98:621.3 & (016.3)

SO: Knizhnaya Letopis', Vol. 7, 1955



KASHECHKIN, N.N.; PEREL'MUTER, N.M.; VINOGOROV, G.K.; YERMOLAYEV, V.M.;  
ITINA, L.S.; MIKHAYLOVSKIY, Yu.V.; BOLDOV, M.Ye.; TSETLIN, A.M.;  
ZHURAVLEV, B.A., red.isd-va; BACHURINA, A.M., tekhn.red.

[Handbook for electrical engineers in the lumber industry]  
Spravochnik elektromekhanika lespromkhoz. Moskva, Goslesbumizdat,  
1958. 320 p. (MIRA 12:4)

1. Nauchnyy i rabotniki Tsentral'nogo nauchno-issledovatel'skogo  
instituta mekhanizatsii i energetiki lesnoy promyshlennosti (for  
all except Zhuravlev, Bachurina).

(Electric engineering--Handbooks, manuals, etc.)  
(Lumbering--Machinery)

PEREL'MUTER, Naum Moiseyevich; ITINA, Liya Solomonovna; KUCHARINA, Klavdiya Ivanovna; BOLDŮV, Mikhael Yefimovich; ALYAB'YEV, Viktor Ivanovich; TSETLIN, Aleksandr Mikhaylovich; POYARKOV, K.M., red.; PITERMAN, Ye.L., red. izd-va; VDOVINA, V.M., tekhn. red.

[Electrification of lumbering enterprises] Elektrifikatsiia lesozagotovitel'nykh predpriyatii. Moskva, Goslesbumizdat, 1961. 358 p.  
(Electricity in lumbering) (Electric railroads) (MIRA 15:2)

ITINA, L.V.

USSR/Medicine - Neurophysiology

FD-2805

Card 1/1 17, 7/19

Author : Itina, L. V.

Title : Effect of environmental factors on the cholinesterase activity of the frog liver.

Periodical : Byul, eksp. biol. i med. 6, 27-31, June 1955

Abstract : Activity of cholinesterase in the frog liver was studied in order to determine the regulating effect of the nervous system on liver cholinesterase and to clarify the part played by the endocrine glands in this complex reflex process. From experiments at various temperatures, in the dark, and in light, author concludes that cholinesterase activity in the liver changes with surrounding conditions and is therefore subject to the regulating effect of the central nervous system. 6 references, 6 USSR, 6 since 1940, graphs and tables.

Institution : Laboratory of the Physiology of Endocrine Glands (Head: Prof Ye. N. Speranskaya) Institute of Physiology imeni I. P. Pavlov (Director: Academician K. M. Bykov) Academy Sciences USSR, Leningrad

Submitted : 31 Dec 1954

ITINA, L. V.

62 / Effects of factors of environment on glycogen reserve in frog liver. L. V. Itina (I. P. Pavlov Inst. Physiol., Acad. Sci. U.S.S.R., Moscow). *Fiziol. Zhur.* S.S.S.R. 41: 395-400 (1955).—Control animals and hypophysectomized specimens show no difference in glycogen content of liver if kept at 5-10° in January-February in normal light. Kept in the dark at 14° the exptl. animals show an 80% decline in liver glycogen in January-February; the exptl. animals show a relatively const. liver glycogen (7.0%) in March-April if kept at 18-20° in normal light, while the control animals show a severe loss of glycogen (to 1.4%). Light causes a decline of liver glycogen in normal animals only after some 45 days. G. M. Kosolapoff

ITINA, L.

Category: USSR/General Division. Congresses. Conventions. Conferences. A-4

Abs Jour: Referat Zh.-Biol., No 9, 10 May 1957, 34937

Author : Itina, L.

Inst : not given

Title : The Republican Scientific Conference of Physiologists, Biochemists,  
Pharmacologists, and Morphologists of the Belorussian SSR.

Orig Pub: Fiziol. Zh. SSSR, 1955, 41, No 5, 712-713

Abstract: The conference took place on 2-4 February, 1955 in Minsk. Physiologists and Pharmacologists from the Lithuanian SSR also took part. A short annotation of the reports heard was given on the questions: the physiology of muscular activity, cortico-visceral coordination, the regularity of interoceptive influence in higher nervous activity, the study of the higher nervous activity in the ontogenesis, physiology and biochemistry of blood, and others.

Card : 1/1

-12-

ITINA, L.V.

BULYGIN, I.A.; ITINA, L.V.; PRIBLUDA, L.A.

Reflex effects from the small intestine on gastric motor activity.  
Trudy Inst. fiziol. AN BSSR 1:22-36 '56 (MLRA 10:5)

1. Laboratoriya kortiko-vistseral'noy fiziologii.  
(REFLEXES) (INTESTINES--INNERVATION) (STOMACH)

ITINA, L.V.

Seasonal variations in the gastric motor function and in interoceptive influences on it. Trudy Inst. fiziol. AN BSSR 2:150-161 '58. (MIRA 12:1)

1. Laboratoriya kortiko-vistseral'noy fiziologii Instituta fiziologii AN BSSR.

(STOMACH) (INTESTINES--INNERVATION)

(TEMPERATURE--PHYSIOLOGICAL EFFECT)

ITINA, L.V.

Comparative characteristics of conditioned reflexes elaborated  
on the basis of exter- and interoceptive reinforcement. Trudy  
Inst.fiziol.AN BSSR 3:60-70 '59. (MIRA 13:7)

1. Laboratoriya kortiko-vistseral'noy fiziologii Instituta  
fiziologii AN BSSR.

(CONDITIONED RESPONSE)



BULYGIN, I.A.; ITINA, L.V.; PRIBLUDA, L.A.

Gastric reflexes originating in the intestine following extirpation of the premotor zone of the cerebral cortex in dogs.  
Trudy Inst.fiziol. AN BSSR 3:120-132 '59. (MIRA 13:7)

1. Laboratoriya kortiko-vistseral'noy fiziologii Instituta fiziologii AN BSSR.  
(REFLEXES) (STOMACH) (CEREBRAL CORTEX)

BULYGIN, I.A.; ITINA, L.V.

Comparative characteristics of conditioned reflexes, elaborated on the basis of exteroceptive and interoceptive reinforcement. Zhur. vys. nerv. deiat. 10 no. 3:369-376 My-Je '60. (MIRA 14:2)

1. Laboratory of Cortico-visceral Physiology, Institute of Physiology, B.S.S.R. Academy of Sciences, Minsk.  
(CONDITIONED RESPONSE)

BULYGIN, I.A.; ITINA, L.V.; RAPATSEVICH, Ye.S.

Comparative characteristics of exteroceptive and interoceptive reflexes. Fiziol.zhur. 46 no.8:966-975 Ag '60. (MIRA 13:8)

1. From the laboratory of cortico-visceral physiology, Institute of Physiology of the Belorussian Academy of Sciences, Minsk.  
(REFLEXES)

ITINA, L.V.

One of the possible causes of the increase in gastric secretion following castration. Dokl. Ak. NTSR 5 no.1:38-40 Ja. '61.

(MIRA 14:2)

1. Institut fiziologii AN BSSR. Predstavleno akademikom AN BSSR I.A.Bulyginym.

(CASTRATION)

(STOMACH—SECRETIONS)

ITINA, L.V.

Effect of reflexes from the oral cavity and intestine on gastric secretion before and after castration. Fiziol. zhur. 47 no.11: 1397-1403 N '61. (MIRA 14:11)

1. From the Laboratory of Cortico-Visceral Physiology, B.S.S.R. Academy of Sciences Institute of Physiology, Minsk.  
(CASTRATION) (STOMACH-SECRETIONS)  
(REFLEXES)

ITINA, L. Ye. i DRZHEVETSKAYA, I. I.

22026 Itina, L. Ye. i Drzhevetskaya, I.A.. Fruktozemiya i laktotsidemiya posle  
naghuzok invertnym sakharom. Vracheb, delo, 1949, No. 7, stb 573-76

SO: Letopis' Zhurnal'nykh Statey, No. 29, Moskva, 1949

*ITINA, M.*

*Rapid determination of glue in the sulfate electrolyte.*  
*M. Itina. Novosti Tekhniki 1980, No. 25-9, 61.—Mix 5*  
*cc. of sulfate electrolyte, 2-3 cc. of H<sub>2</sub>SO<sub>4</sub> (d. 1.84) and*  
*10-15 drops of 30-40% soln. of H<sub>2</sub>O<sub>2</sub>. Heat for 3-4*  
*min. till colorless. Cool. Dil. to 100 cc., mix and filter.*  
*Titrate aliquot of 10 cc. placed in a 100 cc. volumetric flask*  
*in the presence of phenolphthalein. Dil. the neutralized*  
*soln. to vol. Prepare similarly a blank, using the same*  
*amt. of H<sub>2</sub>SO<sub>4</sub>. Mix 10 cc. of the 1st soln. with 8 drops of*  
*the Nessler reagent and compare (colorimetrically)*  
*with the blank which should be mixed with 8 drops of the*  
*Nessler reagent and 1 cc. of (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> soln. (contg.*  
*0.021 mg. of N).*  
*A. A. Podgorov*

KAPLAN, N. ~~IRINA~~ M.

Manufacturing an artificial protein casing. Mias. ind. SSSR  
30, no.3:40-41 . '59. (MIRA 12:9)

1. Gipromyase.  
(Sausage casings)



ITINA, M.

On the utilization of bone in the next seven years. Mias.  
Ind.SSSR 31 no.5:35-37 '60. (MIRA 13:9)

1. Gipromyaso.

(Bone products)

ITINA, M.

Patent titles for the production of dry feeds. Min. ind.  
Sov. 1971. 1:11. (Sov. 14:11)

1. The following is included in the production of dry feeds:  
(Sov. 14:11)

(Sov. 14:11)  
(Sov. 14:11)

ITINA, M., kand.ekonom. nauk; RAYKHEL'SON, M.

Manufacture of artificial protein sausage casings. Mias.ind.  
SSSR 34 no.3:35-37 '63. (MIRA 16:7)

1. Gosudarstvennyy institut po proyektirovaniyu predpriyatiy myas-  
noy promyshlennosti.

TOLSTOV, S.P.; KES', A.S., kand.geograf.nauk; ITINA, M.A., kand.istor. nauk; ANDRIANOV, B.V., kand.istor.nauk; ZHDANKO, T.A., kand. istor.nauk; VISHNEVSKAYA, O.A., nauchnyy sotrudnik; VAKTURSKEYA, N.N., kand.istor.nauk. Prinimali uchastiye LEVINA, L.M., aspirantka; TRUDNOVSKAYA, S.A.; DAVIDOVICH, Ye.A., kand.istor. nauk; ANDRIANOV, B.V., red.isd-va; LEBEDEVA, L.A., tekhn.red.

[The lower reaches of the Amu Darya, the Sarykamysh and the Uzboy; history of their formation and settlement] Nizov'ia Amu-Dar'i, Sarykamysh, Uzboy; istoriia formirovaniia i zaseleniia. Pod obshchei red. S.P.Tolstova. Moskva, 1960. 346 p. (Materialy Khoresmskoi ekspeditsii, no.3). (MIRA 14:2)

1. Akademiya nauk SSSR. Institut etnografii. 2. Chlen-korrespondent AN SSSR (for Tolstov). 3. Institut etnografii AN SSSR (for Levina). 4. Akademiya nauk Tadzhikskoy SSR (for Davidovich). (Amu Darya Valley)

PROCESS AND PROPERTIES INDEX																									
<p>11 I</p> <p>CM</p> <p>ILINA, N. A.</p> <p>The effect of eserine on the skeletal muscle of the tortoise. A. G. Ginczinskii and N. A. Ilina. <i>Bull. biol. med. exp.</i> U. R. S. S. 5. 382-3 (1938) (in English).— The retractor muscle of the tortoise was isolated together with its nerves and immersed in 1:50,000 or 1:100 eserine soln. for 2 hrs. Indirect stimulation of the muscle with induction shocks led to an apparent depolarization of the muscle with a single stimulus. A second stimulus 1 min. later gave the same effect as untreated muscle, while a stimulus 15-20 min. later again showed an eserine effect. S. A. Karjala</p>																									
<p>AS 5-51A METALLURGICAL LITERATURE CLASSIFICATION</p>																									

1ST AND 2ND EDITS		PROCESSING AND PROPERTY INDEX	
<p><b>ITINA, V.A.</b>  <b>CA</b></p>			
<p>Certain peculiarities of muscular reaction of lower vertebrates to vegetative poisons. N. A. Itina (Pbysiol. Inst. Pavlova, Moscow). <i>Soyk. Eksp. Biol.</i> 11, 517-10(1941). Acetylcholine produced on the cyclostomata species a pronounced chronotropic and inotropic effect, the latter being particularly marked in the amsle, the amplitude of which may increase by a factor of 2, when atropine produces the same effect, as does arecoline, although at a higher threshold, while pilocarpine failed to give a definite effect. Stimulation of the vagus nerve in the isolated heart of the higher fish led to hindering of heart action; similar effect is produced by acetylcholine and arecoline, and by pilocarpine (at much higher levels). Atropine and curare annul the acetylcholine effect in the higher fishes and produce a nerve block at approx. the same levels as those required by the frog; to paralyze nerve action on the heart of frog, higher fishes, and cyclostomata, it is necessary to use approx. 1:50,000-100,000 concn. of curare, but the latter species require 5000-20,000 higher concn. of atropine than is needed for higher animals. In skeletal muscle, a 500-fold concn. of arecoline is needed in comparison with acetylcholine to produce a similar contraction; pilocarpine is inactive even at 4000 γ. The curare/atropine coeff. is identical for the heart and skeletal muscle of the cyclostomata, showing the similarity of velolateral innervation in this primitive type. G. M. K.</p>			
<p>ATM-114 METALLURGICAL LITERATURE CLASSIFICATION</p>			
<p>ADDITIONAL INFORMATION</p>			
<p>CONCORDANCE</p>			
<p>ADDITIONAL INFORMATION</p>			

ITINA, N. A.

"On the Autonomous Muscle Innervation in Fishes." (p. 646) by Itina, N. A. (Leningrad)

SO: Advances in Modern Biology (Uspekhi Sovremennoi Biologii) Vol. 16, No. 6, 1943

ITINA, N. A.

"Lymphatic hearts." (p. 241) by N. A. Itina

SO: Advances in Modern Biology (Uspekhi Sovremennoi Biologii) Vol. XXIII, No. 2, 1947



C.A. I TINA, N. A.

#H

Arthropod hearts. N. A. Iijna. *Uspehi Sovetskoi  
Biol.* 26, 915-30(1949); ~~effects of~~ atropine, nicotine,  
acetylcholine, adrenaline, and other drugs on arthropod  
hearts are reviewed. 78 references. J. F. Smith

ITINA, N. A.

PA 34/49T17

USSR/Medicine - Lymph, Circulation      Sep/Oct 48  
Medicine - Poisons, Effects

"The Effect of Denervation on the Reactivity of  
the Lymph Heart With Several Poisons," N. A.  
Itina, Lab of Neuromyic Physiol Inst imeni Acad  
I. P. Pavlov, Acad Sci USSR, 5 pp

"Fiziol Zhur SSSR" Vol XXXIV, No 5

Investigates action of acetylcholine, arecoline,  
adrenalin, atropine, and curare on frogs. Sub-  
mitted 2 Apr 47.

34/49T17

MASLOV, M.S., professor, zasluzhenny deyatel' nauki, daystvitel'nyy chlen Akademii meditsinskikh nauk SSSR; ZAYTSEVA, G.I., kandidat meditsinskikh nauk, sekretar'; KURYLEVA, O.M.; BRONSHTEIN, A.I.; PETROVA, Ye.P.; MALAKHOVSKAYA, D.B.; ITINA, N.A.; MAKAROVA, V.V.; RYBAKOVA, T.N.; ORBELI, L.A., akademik; VOLOVIA, A.B., professor; TUR, A.P., professor; BYSTROLETOVA, G.I.; DANILEVICH, M.G., professor; KUZMICHEVA, A.G., doctsent; BEKTEREVA, M.I.; ALEKSANDROVA, V.R.

Minutes of the meetings of the Leningrad Society of Pediatricians. Vop. pediat. 21 no.2:60-62 Mr-Apr '53. (MLRA 6:6)

1. Leningradskoe obshchestvo detskikh vrachei.
  2. Akademiya meditsinskikh nauk SSSR (for Maslov).
- (Reflexes) (Scarlet fever)

*L. 1. 1. 1. 1. 1.*  
ITINA, N.A.

Specific features of muscular reaction to chemical stimulants in  
lower vertebrates. Mat. po evol. fiziol. 1:147-158 '56. (MIRA 11:1)  
(VERTEBRATES) (MUSCLES)  
(CHEMICALS--PHYSIOLOGICAL EFFECT)

ITINA. N.A.

Chronaxia and accommodation of the heart and somatic muscles in lampreys. Mat. po evol. fiziol. 1:159-163 '56. (MIRA 11:1)  
(LAMPREYS) (CHRONAXIA) (MUSCLES)

AUTHOR: ITINA, N.A. ~~XXXXXXXXXX~~  
 TITLE: The Reaction of the Heart of Tadpoles to Acetylcholine.  
 (Reaktsiya serdtsa golovastika na atsetilkholin, Russian)  
 PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 4, pp 930 - 933  
 (U.S.S.R.) ~~20-4-58/61~~  
 ABSTRACT: Already in 1940 the authoress had ascertained the positive  
 chronotropic influence of acetylcholine as well as of the vagus  
 nerve on the riverlamprey's heart and intended to investigate  
 if the heart of higher organized vertebrate animals in early  
 stages of the ontogenesis has a similar relation to this matter.  
 For this purpose the frog-tadpole heart (*Rana temporaria*) was  
 chosen. The heart was isolated and in Ringer's solution treated  
 with acetylcholine. The way the heart reacts to this substance  
 is very different. In some cases a wide concentration span (from  
 $10^{-17}$  to  $10^{-5}$ ) can cause an only small, almost equal retardation  
 of rhythm. This is characteristic of the primary and the begin-  
 ing of the secondary period of development of the developing re-  
 action faculty. In other cases heart-beat is soon restored after  
 a pause or a high retardation which only lasted for a few seconds,  
 even in the case of considerable concentrations. Finally, there  
 are cases in which, during the influence of acetylcholine, the  
 sine continues its contractions in the original rhythm or only  
 insignificantly retarded, in which case the ventricle and the

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The Reaction of the Heart of Tadpoles to Acetylcholine

20-4-58/61

conus arteriosus contract in a slower rhythm. These phenomena were observed in the 2nd and 3rd period of the development of the reaction faculty on acetylcholine. Certain observations and experiments help to understand to a certain extent the causes of the variability of the results. Firstly the contraction wave often changes its direction: from the cone to the bulb, then again the normal direction from the venous sinus to the cone. Towards the end of the experiment or on the next day an independent rhythm of single heart sectors could be observed. Now the authoress dissected the heart into sectors. Different concentrations of acetylcholine clearly showed a higher sensitivity of the sinus-auricular complex as compared with the cone-ventriculares. The most sensitive part is the auricle. Results give evidence of the fact that in the embryogenesis of frogs there is no stage of accelerating influence on the whole heart. In the earliest stages of development the reaction on acetylcholine is completely lacking, whereas in the following stages the delaying reaction is formed or intensified. It is characteristic of grown-up animals. It can be assumed that the accelerating acetylcholine mechanism is only characteristic of the heart of the river-lamprey and that it is not preserved in the development of the heart of vertebra. It is logical to assume that in the course of the evolution of vertebra in the functional characteristics of their hearts some

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The Reaction of the Heart of Tadpoles to Acetylcholine, <sup>20-4-58/61</sup>  
essential displacement must have taken place. By this the vagus  
nerve and acetylcholine acquired a delaying influence on this  
organ. This displacement must have taken place in an early stage  
of the embryogenesis of the provertebral animals by which the  
stage of the "river-lamprey heart" was omitted from the embryo-  
genesis of higher forms.  
(6 citations from Slavic publications)

ASSOCIATION: Institute for Evolutionary Physiology "I.M.SECHENOV" of the Academy  
of Science of the U.S.S.R.

PRESENTED BY: L.A.ORBELI, Member of the Academy

SUBMITTED: 29.10.1956

AVAILABLE: Library of Congress

Card 3/3



ITINA, N.A., Doc Bio Sci—(diss) " Functional properties of muscles in the early stages of philo- and onto-genesis of vertebrates." Ldn, 1958. 30 pp (Acad Sci USSR. Inst of Morphology of Animals. in A.N. Severtsov), 175 copies. List of author's works, pp 29-30 (IL, 49-58, 121)

- 25 -

EXCERPTA MEDICA Sec 2 Vol 12/7 Physiology July 59

2923. PHYSIOLOGICAL CHARACTERISTICS OF THE LYMPHATIC HEART  
MUSCLE IN THE TADPOLE (Russian text) - Itina N.A. Inst. of Evolut.  
Physiol., Leningrad - FIZIOL. ZH. IM. SECH. 1958, 44/2 (134-140)

Automatic contractions of anterior lymphatic hearts of *R. temporaria* tadpoles begin on the 10th or 12th day of tadpole development. Up to the 20th or 32nd day of development, the isolated lymphatic heart beats at a constant rate in Ringer's solution; later automatic activity decreases gradually, becoming hardly noticeable during the latter third of tadpole development. Tadpole lymphatic hearts possessing a myogenous rhythm react to chemical agents in the same way as the chronically denervated frog heart. ACh accelerates the myogenous rhythm, whereas it evokes only contraction in mature lymphatic hearts no longer displaying automatic activity. The automatic rhythm is also accelerated by arecoline and nicotine; it is not modified by pilocarpine or adrenaline applied in moderate concentrations. The rhythm of lymphatic hearts in situ remains constant only on the first days following the onset of contractions; after about the 15th day the rate of contractions is subject to abrupt changes in either direction (acceleration or slowing down).

Simonson - Minneapolis, Minn.

ITINA, N.A.; GINETSINSKIY, A.G., otv.red.; RAZUMOV, S.A., red.isd-va;  
~~DOORER~~, V.T., tekhn.red.

[Functional properties of neuromuscular apparatus in lower  
vertebrates] Funktsional'nye svoystva nervno-myshechnykh  
priborov nizshikh pozvonochnykh. Moskva, Izd-vo Akad.nauk  
SSSR, 1959. 193 p. (MIRA 12:11)  
(MUSCLES--INNERVATION) (VERTEBRATES--PHYSIOLOGY)

ITINA, N.A.; SOKOLOVA, M.M.

Excitability and lability of muscle fibers growing outside the  
organism. Mat. po evol. fiziol. 4:179-184 '60. (MIRA 13:10)  
(TISSUE CULTURE)

ITINA, N.A.; POPOVA, D.I.

Effect of gamma rays on the activity of lymph hearts in developing tadpoles. Mat. po evol. fiziol. 4:240-246 '60. (MIRA 13:10)

(GAMMA RAYS—PHYSIOLOGICAL EFFECT) (LYMPHATICS)

(LARVAE—AMPHIBIA)

KREPS, Ye.M., otv. red.; VERZHBINSKAYA, N.A., red.; VOSKRESENSKAYA, A.K., red.; ZHUKOV, Ye.K., red.; ZAGORUL'KO, T.M., red.; ITINA, N.A., red.; KARAMYAN, A.I., red.; KARMANOVA, I.G., red.; KONSTANTINOVA, M.S., red.; TITOVA, L.K., red.

[Evolution of the functions; physiological, biochemical and structural foundations of the evolution of the functions. Festschrift for the 80th anniversary of Academician L.A.Orbeli] Evoliutsiia funktsii; fiziologicheskie, biokhimicheskie i strukturnye osnovy evoliutsii funktsii. Sbornik posviashchenyi 80-letiiu akademika L.A.Orbeli. Moskva, Izd-vo "Nauka," 1964. 290 p. (MIRA 17:6)

1. Akademiya nauk SSSR. Institut evolyutsionnoy fiziologii.
2. Chlen-korrespondent AN SSSR (for Kreps).

ITINA, N.A.; BALONOV, L.Ya.

Studies on the EEG in lampreys with special reference to the  
role of acetylcholine in the heart. Fiziol. zhur. 50 no.3:  
355-364 Mr '64. (MIRA 18:1)

1. Institut evolyutsionnoy fiziologii imeni I.M. Sechenova AN  
SSSR, Leningrad.

KREPS, Ye.M., otv. red.; VERZHBINSKAYA, N.A., red.; VINNIKOV, Ya.A., red.; VOSKRESENSKAYA, A.K., red.; ZHUKOV, Ye.K., red.; ZAGORUL'KO, T.M., red.; ITINA, N.A., red.; KARAMYAN, A.I., red.; KARMANOVA, I.G., red.; KONSTANTINOVA, M.S., red.; PLISETSKAYA, E.M., red.

[Functional evolution of the nervous system] Funktsional'naya evoliutsiia nervnoi sistemy. Moskva, Nauka, 1965. 189 p. (MIRA 19:1)

1. Akademiya nauk SSSR. Institut evolyutsionnoy fiziologii i biokhimii.



2A  
ITINA, O. Ye.

Accelerated bleaching of linen fabrics. O. B. Ilina, *L'as-Pre-Pravda* From: 6, No. 8, 49-51 (1937). *Chem. Zvez.* 1937, 1, 1334. — Bleaching according to the emulsion process is accomplished by 2 treatments of alkali, boiling, chlorination and acidification for raw fabrics, bleached yarn and by the use of 3 strips for raw fabrics. W. A. Moxer.

Bleaching of linen with peroxide. O. B. Ilina, *L'as-Pre-Pravda* From: 1936, No. 1, 35-41; *Khim. Referred. Zhur.* 2, No. 1, 97 (1936); cf. C. A. 33, 9012. A soln. of  $\text{Na}_2\text{O}_2$  in water was neutralized by the addn. of  $\text{H}_2\text{SO}_4$ . The optimum concn. of the peroxide for bleaching linen was 1.5-2% of O on the wt. of the cloth. Best results were obtained from bleaching at 80-85° for not less than 3 hrs., or for 1 hr. at 80° and 1 hr. at 100°. A neutralizer (Na silicate) must be added to the peroxide soln. The optimum alk. was obtained with a ratio in the bleaching soln. of  $\text{Na}_2\text{O}_2$  (in the silicate) to  $\text{Na}_2\text{O}$  (total alk. of the soln.) close to 1:1. Some  $\text{Na}_2\text{CO}_3$  is undesirable, but be added to the soln. Presence of  $\text{Na}_2\text{CO}_3$  is undesirable, and addn. of soap increases the whiteness of the cloth, but decreases slightly its capillarity. More economical than use of peroxide alone is boiling in an alk. bath, bleaching with hypochlorite, finishing with  $\text{Na}_2\text{O}_2$  with the addn. of acid. W. R. Hean.

ASH-51A METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS		3RD AND 4TH ORDERS	
<p>ITINA, O. Ye. CA</p>		<p>23</p>	
<p><b>Mercurization of linen fabrics and spun yarn.</b> O. R. Itina and V. P. Lapina. <i>L'no-Pen'ko-Doklady Prikl. Khim.</i> No. 1, 44-9(1938); <i>Chem. Zentr.</i> 1938, II, 1700. When the temp. of the mercurizing liquor is 20-30° the period of mercurization for white linen fabrics must not be less than 1-2 min. The optimum concn. of the liquor is 24-28%Bé. Expts. were also made with a NaOH liquor of 12%Bé. The addn. of 2 g. fuel oil per l. of liquor as an emulsifier increased the wettability of the fabric and accelerated mercurization. The loss in strength of the mercurized fabric depends on the concn. of the mercurizing liquor. The loss in strength is less for fabrics treated in highly concd. liquors than for those treated in more dil. liquors. Since the micelles of the linen fibers are arranged in parallel fashion, this change in strength is explained by the increase in the cross section of the fiber as the result of swelling of the micelles. When mercurization was done with liquor of 28%Bé., no loss in the strength of linen fabrics could be detected. M. G. Moore</p>			
<p>ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION</p>			
HIGH STRENGTH		HIGH DENSITY	
10000 00		10000 000 000	
10000 00		10000 000 000	

PROCESS AND PROPERTIES INDEX																									
1ST AND 2ND ORDERS													3RD AND 4TH ORDERS												
<p>23</p> <p>LIWA, O.Ye.</p> <p>Plant experiments for the bleaching of linen with hydrogen peroxide. O. H. Itina. <i>L'no-Pen'ko-Dukuleya</i> <i>Prim.</i> 8, No. 8, 33-8(1938); <i>Khim. Referat. Zhur.</i> 1, No. 11-12, 140-1(1938); cf. C. A. 34, 7274. The bleaching can be performed either with <math>H_2O_2</math> or by the combination method (alk. boiling, bleaching with hypochlorite, acidification, bleaching with <math>H_2O_2</math>, acidification). The <math>H_2O_2</math> bleaching is more expensive than the combination method, but it results in less loss of wt. and of durability of the cloth. The combination method is recommended for coarse cloth, as it gives better results than the hypochlorite or <math>H_2O_2</math> methods. Bleaching with <math>H_2O_2</math> should be carried out for 3 hrs. at 80-85° with a concn. of <math>H_2O_2</math> of not over 2% of active O based on the wt. of the cloth, with 15 g./l. of alkali (38°Bé.) with an addn. of soap and of NaOH such that the total basic strength of the soln. is 3.5-4 g./l. of NaOH and the ratio <math>SiO_2:Na_2O</math> as close to 1 as possible. W. R. Henn</p>																									
<p>ASH-51A METALLURGICAL LITERATURE CLASSIFICATION</p>																									

CA TINA, O-Ye.

25

**Rationalization of the bleaching process for linen fabrics.**  
O. B. Iltis. *Tekstil. Prom.* 1940, No. 9, 27-9.---A shortened process is described, consisting of the stages: two alkali boils, sour, hypochlorite bleach, sour, permale bleach, sour. The consumption of active O is thus lowered to 0.4% on fabric wt., and degradation of the fiber is decreased in comparison with the conventional bleach method. B. A.

CH **Rationalization of the bleaching process of linen goods**  
O. B. Itina. *Nauch.-Issledovatel. Trudy Tsentral. Nauch.-Issledovatel. Inst. Lubyayish Vokhoz* 7, 163-77(1953).

*Referat. Zhur., Khim.* 1954, No. 46566. An alk.-hypochlorite-peroxide bleaching process is suggested, according to which the peroxide bleaching is preceded by a partial purification of the yarn of cellulose admixts. which is accomplished by alk. boiling and NaOCl bleaching. The final treatment with  $H_2O_2$  combines a bleach and antichlorine treatment. This procedure gives a sufficiently high bleach to the goods. The optimum concn. of active O in the final bleach is 0.4-0.43 g./l., duration 2 hrs., temp. 87-90°, bath modulus 1:10, pH 11, and a titrable NaOH content 2.8 g./l. The alk. reaction in the bleaching bath is effected by addn. of Na silicate (8-10 g./l.), or soda; or NaOH in the presence of silicate ( $Na_2O:SiO_2 = 1:1$ ). The specific viscosity of the cuprammonium cellulose soln. of the bleached fabric is 0.738. In linen bleaching-finishing plants the suggested procedure can be carried out in existing equipment; the peroxide treatment is carried out in kettles coated with a protective layer.

M. Hosen.

ITINA, O.Ye.; OSKORBINA, N.A.; GRISHINA, V.G.

Linen bleaching with sodium chlorite. Tekst.prom. 18 no.10:  
41-43 0 '58. (MIRA 11:11)  
(Linen) (Bleaching agents)

SOKOLOV, L.N.; ITINGOF, N.Sh.

Thorough utilization of the classification tracks. Zhel. dor.  
transp. 46 no.8:69-72 Ag '64. (MIRA 17:11)

1. Nachal'nik stantsii Yaroslavl'-Glavnyy (for Sokolov).
2. Glavnyy inzh. stantsii Yaroslavl'-Glavnyy (for Itingof).

ITINSKAYA, N. I.

6606. ITINSKAYA, N. I.

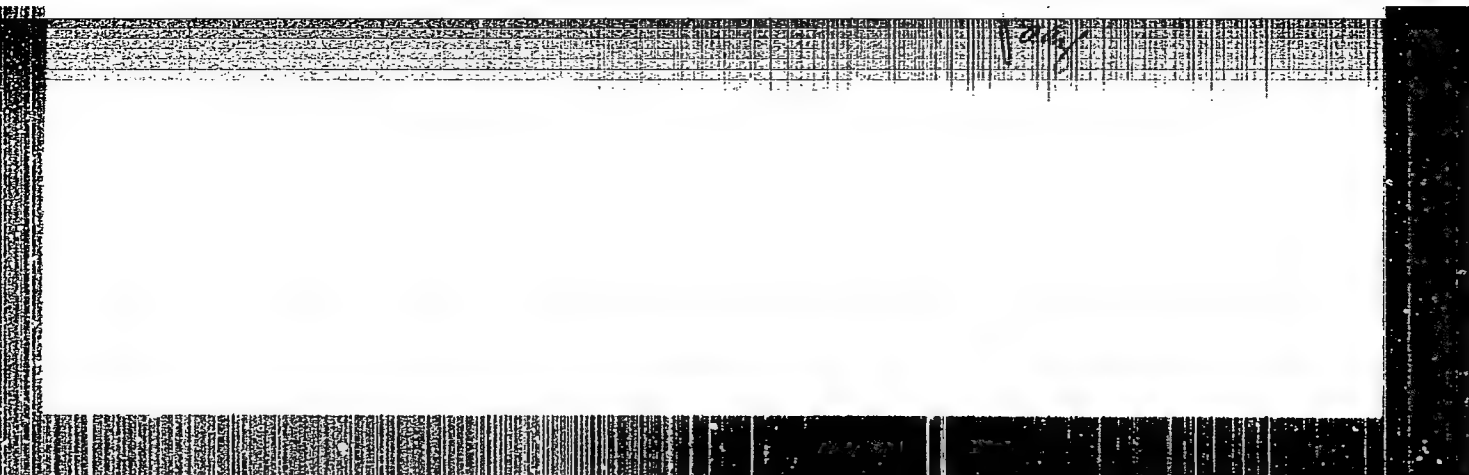
ITINSKAYA, N. I. I ZARYANOVA, V. N. RUKOVODSTVO DLYA PROVEDENIYA  
LABORATORNYKH RABOT PO KURSU " TOPLIVO, SMAZOCHNYYE MATERIALY I  
VODA". SOST N. I. ITINSKAYA, V. N. ZARYANOVA. M., 1954 56 S  
21 SM ( M -VO VYSSH. OBRAZOVANIYA SSSR. MOSK IN-T mekhanizatsii  
I ELEKTRIFIKATSII SEL'SKOGO KHOZYAYSTVA IM V. M. MOLOTOVA. VSESOYUS  
s. -KH IN-T ZAOCH OBRAZOVANIYA) 2,000 EKZ BESPL.--(55-2266)  
662.6 plus 621.89 plus 663.63(071.4)

SO: KNIZHANYA LETOPIS ' no. 6, 1955



**"APPROVED FOR RELEASE: 08/10/2001**

**CIA-RDP86-00513R000618920006-9**



**APPROVED FOR RELEASE: 08/10/2001**

**CIA-RDP86-00513R000618920006-9"**

TINSKAYA, N.I.

pmf

A study of the effect of oxidation products on the lubricating properties of engine oils is presented. The study was conducted on a test rig simulating the conditions of operation of a diesel engine. The results of the study show that oxidation products have a significant effect on the lubricating properties of engine oils. The study also indicates that the use of antioxidants can significantly improve the lubricating properties of engine oils.

*Handwritten text:*  
... ..  
... .. T M ... ..

AUTHORS: Itinskaya, N.I. and Degtyarev, M.D. 65-10-9/13  
TITLE: On the Problem of the Stability and Mechanism of Action  
of the Tsiatim-339 Additive (K voprosu o stabil'nosti i  
mekhanizme deystviya prisadki Tsiatim-339)

PERIODICAL: Khimiya i Tekhnologiya Topliva i Masel, 1957, No.10,  
pp. 47-52 (USSR)

ABSTRACT: An investigation of the stability of the above additive in operating oil and the mechanism of its action were investigated. The stability of the additive, i.e., the amount of the additive left in an oil after a given number of hours of operation of an engine was determined on the basis of the changes in the barium content of carefully filtered oil. Ash, sulphur, barium and washing properties of oil samples (using ПЗВ apparatus) were tested after various numbers of hours of operation. Diesel oil ДТ-14 with the additive used in tractors ДТ-54 in normal agricultural service (5 tractors were under observation) were studied. Service conditions of tractors and the consumption of fuel and oil are given in Table 1 and the experimental results obtained in Table 2 and Figs. 1-3. In order to establish the difference in the oxidation of oil ДТ-14 without and with 3% of Tsiatim-339, the appropriate samples were submitted to

Card 1/3

65-10-9/13

On the Problem of the Stability and Mechanism of Action of the  
Tsiatim-339 Additive

artificial oxidation by blowing air at a rate of 5 litres/min at 165 °C. The results obtained are given in Fig.4. On the basis of experimental and literature data, the following mechanism of the action of the additive TsiATIM-339 was postulated. The additive forms an adsorption film on the products of oxidation of oil, which prevents their further coagulation; it also acts as an anti-oxidant by slowing down the process of oxidation; it partially neutralises acids formed as well as produces a film on sliding parts, thus protecting them from corrosion. On interaction of the additive with an organic acid, an exchange reaction takes place with the formation of salts (which decreases the acidity of oil) and the separation of various alkylphenols. Both the initial additive as well as alkylphenols<sup>formed</sup> are adsorbed on the products of ageing of oil, thus preventing their coagulation and formation of a precipitate. The presence of sulphur in alkylphenols secures the formation of a film on metals, protecting them from corrosion. The products formed of the alkylphenol type are anti-oxidants slowing down the process of oxidation of the oil. There are 2 tables and 4 figures.

Card 2/3

ITINSKAYA, N.1

PHASE I BOOK EXPLOITATION

80V/3824

Irisov, Aleksandr Sergeyevich, and Nadezhda Ivanova Itinskaya

Toplivo i smazochnyye materialy (Fuel and Lubricants) Moscow, Sel'khozgiz, 1959.  
469 p. (Series: Uchebniki i uchebnyye posobiya dlya vysshikh sel'skokhozyayst-  
vennykh uchebnykh zavedeniy) 10,000 copies printed.

Eds.: B.Ya. Letnev and G.V. Krzhizhanovskaya; Tech. Ed.: Z.P. Zabrulina.

**PURPOSE:** This book is intended for students concerned with the mechanization of agriculture. It may also be useful to agricultural engineers and technicians engaged in the utilization, storage and transportation of petroleum products.

**COVERAGE:** The book reviews basic properties of solid and aqueous fuels used in agriculture and describes methods of refining petroleum to produce automobile, tractor and diesel fuels and lubricants. Straight-run distillation and chemical conversion of petroleum are briefly covered. The fractional composition of various petroleum products is given. Combustion of fuel in carburetor and diesel engines is explained with stress laid on the prevention of gum formation and elimination of knock. The use of gaseous fuels and liquefied gases is discussed.

Card 1/9

ITINSKAYA, N.I., kand.tekhn.nauk, dotsent; DEGTEREV, M.D., kand.tekhn.nauk,  
assistant; KUZNETSOV, A.V., aspirant; TRET'YAKOV, B.S., assistant

Effect of the prolonged use of crankcase oil on the performance of  
DT-54 tractors. Trudy MIMESKH 6:351-364 '59. (MIRA 14:5)  
(Tractors--Lubrication)

ITINSKAYA, Nadezhda Ivanovna; NIKITINA, V.M., red.; DEYEVA, V.M.,  
tekhn. red.

[Laboratory work with fuel and lubricants] Laboratornye raboty  
po toplivu i smazochnym materialam. Moskva, Sel'khozizdat,  
1962. 191 p. (MIRA 15:9)  
(Lubrication and lubricants)



ITINSKAYA, N.I., kand.tekhn.nauk, dotsent; KUZNETSOV, A.V.,  
starshiy prepodavatel'

Properties of diesel oils in the operation of tractor  
engines. Izv. TSKHA no.2:115-130 '62. (MIRA 15:9)  
(Tractors--Lubrication)

L 47199-66 EWT(m)/I WE

ACC NR: AR6026476

SOURCE CODE: UR/0273/66/000/004/0042/0042

AUTHOR: Itinskaya, N. I.; Kul' chev, M. A.

OR

TITLE: Study of the operation of a D-20 tractor diesel engine with various fuel additives at the intake

SOURCE: Ref. zh. Dvigateli vnutrennego sgoraniya, Abs. 4.39.282

REF SOURCE: Dokl. Mosk. in-ta inzh. s. -kh. proiz-va, v. 2, no. 2, 1965, 55-63

TOPIC TAGS: tractor, diesel engine, diesel fuel, fuel additive/D-20 tractor diesel engine

ABSTRACT: The results of an investigation of the effect of fuel additives on the indicator diagram of a diesel engine are presented. Induction was carried out by the MAI-2 electropneumatic indicator. [Translation of abstract] [NT]

SUB CODE: 21/

Card 1/1 pb

UDC: 621.436.001.5

√ ITINSKIY, V. I.

Esters of dimethylol urea and their transformation into resins. O. S. Petrov and V. I. Itinskiy. *J. Chem. Ind. (U. S. S. R.)* 19, No. 8, 15-20 (1941); *Chem. Zvesti*, 1943, 1, 218. —Prepn. of the diethyl ester of dimethylol urea (I) by soln. in EtOH in the presence of HCl is unsuccessful at room temp., but at 78-80° for 5 min. it gives yields up to 110% based on the starting materials. Addn. of Ag<sub>2</sub>CO<sub>3</sub> causes resin formation in the mixt. To obtain

[illegible]

ITINSKIY, V.I.

OSTER-VOLKOV, N.N., inzh.; ITINSKIY, V.I., inzh.

New mineral organic cementless concrete. Izobr.v SSSR 2 no.12:8-9  
D '57. (MIRA 10:12)

(Concrete)

SOV-25-58-10-45/48

AUTHOR: Oster-Volkov, N.N., Itinskiy, V.I., Engineers

TITLE: None given

PERIODICAL: Nauka i zhizn', 1958, <sup>16</sup>Nr 10, pp 78 - 79 (USSR)

ABSTRACT: The Institute of Plastics has developed new synthetic resins under the supervision of Professor G.S. Petrov. Tests, successfully carried out, proved that the synthetic resin "FA" can be subjected to temperatures between -60° and +320° and for a short period even to 2000° C.

ASSOCIATION: Vsesoyuzniy nauchno-issledovatel'skiy institut plastmass  
(All-Union Scientific Research Institute of Plastics)

1. Plastics--Temperature factors

Card 1/1

5(1,3)

AUTHORS:

Kamenskiy, I. V., Itinskiy, V. I., Korzeneva, Yu. I.

SOV/153-2-1-17/25

TITLE:

Thermally Stable Resins and Plastics on the Basis of the Interaction Products of Furfurol With Substances Containing a Keto Group (Termostoykiye smoly i plastiki na osnove produktov vzaimodeystviya furfurola s veshchestvami, sodержashchimi ketogruppu)

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 1, pp 89-95 (USSR)

ABSTRACT:

Plastics with increased thermal stability would permit the solution of complicated technical problems in designing new constructions. The plastics presently being produced can be used at 200-250° only for a limited time. The investigations presently being made (Refs 1-13) in search of suitable plastics are mentioned. The latest papers (Refs 14-22) concern furfural resins. Cast furfural products with acid hardening agents are not combustible, but polymerize readily. Since these polymers are neither soluble nor meltable, it is not possible to produce from them products suited for technical purposes. Ketones, however, which enter readily reaction with furfural, form meltable and soluble resins. Thus, it is possible to ob-

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SOV/153-2-1-17/25

Thermally Stable Resins and Plastics on the Basis of the Interaction Products of Furfurol With Substances Containing a Keto Group

tain solid, thermally stable products. This article serves the purpose of explaining the dependence of the structure of ketones condensing with furfurol on the thermal stability of the resultant condensation products. The method of the experiment is described. The article is then divided into two paragraphs: 1) production of resins from furfurol and ketone in molar ratio. The following ketones were used: acetone, methyl-ethyl ketone, cyclohexanone, diacetone alcohol, quinone, anthraquinone, camphor, p,p'-dimethyl benzophenone, and benzanthrone. The table (not numbered, inserted between p 92 and 93) shows the conditions of reaction, the properties of the monomers, soluble resins and plastics produced on their basis. From the results of this table the author drew conclusions concerning the course of reaction and the structure of the resultant compounds. 2) Resins from various molar ratios of furfurol and ketone. As was confirmed in the last paragraph, the condensation products of furfurol and acetone exhibit the highest thermal stability. The afore-mentioned table contains

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SOV/153-2-1-17/25

Thermally Stable Resins and Plastics on the Basis of the Interaction Products of Furfurol With Substances Containing a Keto Group .

also results of these experiments. Figure 1 illustrates the deformation of the pressed material of the last-mentioned condensation products. Figure 2 contains the same data for the resins F2A, BF-4, AG-4 and K-211-3, and figure 3 contains the same data for the combined resins F2A, ED-6, K-18-2 and K-15-2. The hardening of resin was investigated by means of the plastometer (plastomer) of the system I. F. Kanavets. The authors arrived at the following conclusions: The increased thermal stability depends not only on the reaction conditions but chiefly on the structure of the reacting component contained in the keto group. The thermal stability dependent on the ketones used decreases in the following manner: acetone (molar with furfurol) 1:4, 1:2, 1:1; mesityl oxide, acetophenone, diacetone alcohol and methyl-ethyl ketone, cyclohexanone and acetone (molar to furfurol) 2:1. The thermal stability of the hardened furfurol-ketone resins increases with rising temperature of the reaction and decreasing volume of the reacting components with increasing coke number and specific weight of the hardened products. Meltable and soluble

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Thermally Stable Resins and Plastics on the Basis of the Interaction Products  
of Furfural With Substances Containing a Keto Group

SOV/153-2-1-17/25

resins with low molecular weight are produced from furfural with acetone. Various thermally stable plates, impregnating agents, coatings, foam-pore masses and other materials are obtained from hardened resins. There are 4 figures, 1 table, and 23 references, 3 of which are Soviet.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskii institut imeni D. I. Mendeleyeva; Kafedra tekhnologii plasticheskikh mass  
(Moscow Institute of Chemical Technology imeni D. I. Mendeleyev, Chair of the Technology of Plastics)

SUBMITTED: December 16, 1957

Card 4/4

87880

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S/191/60/000/005/006/020  
B004/B064

AUTHORS: Kamenskiy, I. V., Sanin, I. K., Itinskiy, V. I., Krylova, G. D.

TITLE: Polymers on the Basis of Reaction Products of Furfurol With  
Diacetone Alcohol and Boron-containing Ester of Diacetone  
Alcohol

PERIODICAL: Plasticheskiye massy, 1960, No. 5, pp. 15 - 17

TEXT: The authors proceed from joint investigations of the MKhTI im. Mendeleeva (Moscow Institute of Chemical Technology imeni Mendeleev) and NIIPM (Scientific Research Institute of Plastics) which showed (Refs. 5, 6) that the reaction of furfurole with compounds containing ketone groups yields monomers which are transformed into heat-resistant polymers under the action of heat. This investigation aims at studying the effect of the presence of boron upon the heat resistance of these polymers. First, the condensation of furfurole with diacetone alcohol is described. The molar ratio of the two components was 1:1, and condensation was conducted in the presence of 2 % NaOH as catalyst. The yield in resin was 65 - 70 %. When heated to 200°C without hardener, the resin became

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Card 1/2

87880

Polymers on the Basis of Reaction Products of Furfurol With Diacetone Alcohol and Boron-containing Ester of Diacetone Alcohol

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B004/B064

insoluble and unmeltable after 23 minutes. Instantaneous hardening occurred in the presence of 3 % benzene sulfonic acid. The coke number was 64 - 65 %, the heat resistance according to Zhurkov, 250°C. Moreover, the boric acid ester of diacetone alcohol was produced from diacetone alcohol and boric acid tributyl ester (molar ratio 3 : 1), fractionated in vacuo, and the fraction corresponding to the boron content of the boric acid ester (3.2 %) used for the reaction with furfurole. It took place:

A) Dissolved in organic solvent, with 3 % NaOH, referred to furfurole, as a catalyst. No resin was formed after heating to 90 - 95°C for 24 hours.

B) Without solvent, NaOH being the catalyst. A 10 - 11 hours' heating to 120°C yielded 65 - 70 % resin. C) Without solvent, the CBC (SBS) type cation exchanger being the catalyst. Heating to 120°C yielded already after 6 hours 65 - 70 % resin with a coke number of 69 %, and a heat resistance of up to 400°C. These polymers may be well combined with epoxy-, phenol formaldehyde-, or furfurole acetone resins. Thus, it is possible to raise the heat resistance of these resins. There are 1 figure, 4 tables, and 6 references: 2 Soviet, 3 US, and 1 British.

Card 2/2

83415

S/191/60/000/006/007/015  
B004/B054

15.3000 also 2111  
5.3830

AUTHORS:

Itinskiy, V. I., Kamenskiy, I. V., Oster-Volkov, N. N.

TITLE:

Organomineral Cement-free Concrete

PERIODICAL:

Plasticheskiye massy, 1960, No. 6, pp. 19 -

TEXT: The authors report on experiments made by the Laboratoriya kafedry tekhnologii plasticheskikh mass MKhTI imeni Mendeleeva (Laboratory of the Chair of Plastics Technology of the Moscow Institute of Chemical Technology imeni Mendeleev) and the Nauchno-issledovatel'skiy institut plasticheskikh mass (Scientific Research Institute of Plastics). Polymers of monomeric compounds of furfural with ketones, especially acetone, showed high thermostability, incombustibility, resistance to water, and chemical resistance. Samples of concrete in the form of BTO-10 (BTO-10) blocks, P-1 (R-1) timbers, CTK (STK) tubings, and pressure water lines (Fig. 1) were produced from the furfural acetone monomer FA (FA) (containing about 20% of difurylidene acetone) in test plants of the Upravleniye moskovskogo Metrostroya (Administration for the Construction of the Moscow Subway) and the Skuratovskaya eksperimental'naya baza

Card 1/4

83415

## Organomineral Cement-free Concrete

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B004/B054

TsNII Podzemshakhtstroya (Skuratovo Experimental Basis of the Central Science Research Institute of Underground and Shaft Mining). The BT0-10 blocks were produced at the zavod ZhBK (Reinforced-concrete Construction Works) of the Administration for the Construction of the Moscow Subway. The production of FA was started by the Ferganskiy gidroliznyy zavod (Fergana Hydrolysis Works), Lisichanskiy opytnyy zavod (Lisichansk Experimental Plant), and others. Investigations by the Kafedra organicheskoy khimii (Chair of Organic Chemistry) of the Dnepropetrovskiy sel'skokhozyaystvennyy institut (Dnepropetrovsk Agricultural Institute) show that the production costs of furfural can be reduced to one-half or one-third. Polymerization of FA is realized at 110-180°C by dehydration; a mixture of dimers of furylidene acetone and trimers of difurylidene acetone forms an intermediate. As dehydration leads to the formation of pores, the intermediate is to be used for concrete production. Hardening is done by sulfonic acids (e.g. benzene sulfonic acid), certain mineral acids ( $H_3PO_4$ ), or metallic salts, in which acids form due to hydrolysis. The hardening process depends on the amount of hardening agent used, and is controllable within wide limits. With the use of acid slags or waste

X

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# Organomineral Cement-free Concrete

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S/191/60/000/006/007/015  
B004/B054

of the hydrofluoric acid production as fillers, the addition of hardening agent can be reduced from 3 to 0.7%. Sparingly wetttable minerals (talcum, sulfur, graphite, pyrite, etc.) were not used as fillers. Clay minerals form no concrete without previous treatment (e.g. with Fe salts). Clays containing  $\text{CaCO}_3$  or  $\text{MgCO}_3$  cannot be used because of the liberation of  $\text{CO}_2$ . Building sand was wetted with furfural in the concrete mixer, then FA, and finally the hardening agent, were added. Fig. 2 shows that optimum concrete hardness is attained with 12% of FA. The setting of concrete in air is shown in Fig. 3, the setting in water in Fig. 4. Materials used for reinforcement were: glass fiber, glass tissue, metal rods, metal mesh, wood, and reed. Glass can only be used after treatment with furyl silicate resin. Investigations by the NIIKHIMMASH (Scientific Research Institute of Chemical Machinery) showed that plastic concrete is resistant to acids, bases, salt solutions, and polar and nonpolar solvents, while it is decomposed by hot oxidizing agents ( $\text{HNO}_3$ ,  $\text{H}_2\text{CrO}_4$ , 33%  $\text{H}_2\text{O}_2$ ). Cold and X-rays do not influence the properties. Plastic

Card 3/4

15.3000 also 2111

83417

S/191/60/000/006/012/015  
B004/B054

AUTHOR: Itinskiy, V. I.

TITLE: Industrial Manufacture of Plastic Concrete Products

PERIODICAL: Plasticheskiye massy, 1960, No. 6, pp. 46 - 47

TEXT: Plastic concrete consists of mineral filler (quartz sand, granite rubble, rubble, porous clay filler, etc.), 10-12% of furfural acetone monomer of the type  $\Phi A$  (FA) as a binder, and 2-3% of acid (sulfonic acid, etc.) as hardening agent. The physical and chemical properties of this concrete were tested by several institutes of the Akademiya stroitel'stva i arkhitektury SSSR (Academy of Building and Architecture of the USSR), the Ministerstvo transportnogo stroitel'stva (Ministry of Transport Constructions), and special institutes. The Skuratovskiy eksperimental'nyy zavod TsNII Podzemshakhtnoy Tula'skogo SNKh (Skuratovo Test Plant of the Central Scientific Research Institute of Underground and Shaft Mining of the Tula sovmarkhoz) manufactured from this material: rings for sewer pipes, diameter 1200 mm, wall thickness 80 mm, weight 650 kg, which are to be tested in Moscow; CTK (STK) tubings, and

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Industrial Manufacture of Plastic Concrete  
ProductsS/191/60/000/006/012/015  
B004/B054

P-1 (R-1) ribbed plates for shaft mining. Steel-reinforced OMC-1 (OSH-1) timbers weighing 70 kg only with a carrying capacity of 9 t/m<sup>2</sup> are produced at the Luganskiy kombinat proizvodstvennykh predpriyatiy No. 2 (Luganskoye Kombinat No. 2 of Industrial Plants). BT0-10 (BT0-10) blocks were produced at the zavod zhelezobetonnykh konstruktsiy Moskovskogo metrostroya (Plant of Reinforced Concrete Constructions of the Administration for the Construction of the Moscow Subway). A plant of the Luganskiy sovnarkhoz (Luganskoye sovnarkhoz) is producing tubes of 1 m diameter for 8 atm pressure. The 22-y otdel NIIPM (22nd Department of the Scientific Research Institute of Plastics) made roof coverings of plastic concrete. The SOYUZDORNI (State All-Union Scientific Research Institute of Roads and Highways) will build a road section of plastic concrete in the summer of 1960.

Card 2/2

S/193/60/000/007/001/012  
A005/A001

AUTHORS: Itinskiy, V. I., Kamenskiy, I. V.

TITLE: Heat-Resistant Plastic Materials

PERIODICAL: Byul. tekhniko-ekonom. informatsii, 1960, No. 7, pp. 10-13

TEXT: The Kafedra tekhnologii plasticheskikh mass Moskovskogo ordena Lenina khimiko-tekhnologicheskogo instituta im. D. I. Mendeleyeva (Department of Technology of Plastic Materials of the Moscow "Order of Lenin" Institute of Chemical Technology im. D. I. Mendeleyev (MKhTI)) and the Nauchno- issledovatel'skiy institut plasticheskikh mass (Scientific Research Institute of Plastic Materials) synthesized jointly in 1951-1959 monomeric compounds of condensation products of furfural and acetone, which are transformed into polymeric compounds of high heat-resistance by additional treatment and can be applied to the production of pressed articles, impregnation, and coating of porous organic materials. The monomeric compound of furfural and acetone is a liquid of the specific weight 1.084 with the boiling point between 180 and 240°C, and pH of about 4, and consists of 80% furylidene acetone and 20% difurylidene acetone, the mixture of which ("Monomer FA") is the initial product of the heat-resistant materials. The thermosetting

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## Heat-Resistant Plastic Materials

S/193/60/000/007/001/012  
A005/A001


resin FA is a solid product obtained by the compression of monomer FA or by the immediate interaction between furfural and acetone; it is provided for pressed materials, glass textolite, shell molds of metal castings, impregnations, lacquers of high heat resistance. The characteristics are as follows: specific weight 1.14-1.29; weakly acid reaction; the solubility is perfect in acetone and ethylcellosolve; in alcohol insoluble; drop point according to Ubbelohde 100°C; softening point according to Kremer-Sarnov 65-77°C. As fillers served: glass fiber ФАС (FAS), asbestos ФАА (FAA), graphite ФАГ (FAG). The mechanical and electrical properties of pressed materials with fillers are presented in 1 table and 1 graph. - The FA-resin increases considerably the heat-resistance of phenol-formaldehyde and epoxide resins. The pressed material FAS is a heat-resistant structural material and can be applied at long-time operation temperatures of up to 330-350°C and short-time operation at 1,200-2,700°C. The FAA-material is a heat-resistant friction material. The FAG-material is a heat-resistant chemical material. Block-graphite impregnated with FA yields a material impermeable for gas and water with high heat conductivity. - At the end of 1957, the Kineshemskiy leso-khimicheskiy zavod (Kineshma Wood Pulp Chemistry Plant) installed for long-time tests components of caps made of impregnated graphite into the column of acetic acid rectification; no deformation or destruction were observed hitherto.

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Heat-Resistant Plastic Materials

S/193/60/000/007/001/012  
A005/A001

Wood, slabs of woody shavings, wood fiber slabs, and porous organic materials gain, by impregnation or covering with the FA-monomer, the properties of incombustibility and imputrescibility with simultaneously increasing hydrophobic nature. A table shows the comparative properties of slabs with and without treatment with FA. The raw material base of the furfural production is practically unlimited (agricultural waste products, turf, reeds). There are 2 tables and 1 figure.



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15.2220

S/193/60/000/008/012/018  
A004/A001

AUTHOR: Itinskiy, V. I.

TITLE: Corrosion-Resistant Graphite Materials

PERIODICAL: Byulleten' tekhniko-ekonomicheskoy informatsii, 1960, No. 8, pp.65-66

TEXT: The Nauchno-issledovatel'skiy institut khimicheskogo mashinostroyeniya (Scientific Research Institute of Chemical Machinery) in cooperation with the Nauchno-issledovatel'skiy institut plasticheskikh mass (Scientific Research Institute of Plastics) has developed a new method of obtaining heat-resistant and chemically resistant impermeable and heat-conducting graphite. This graphite, impregnated with furfural-acetone resin, can be used in aggressive media both at normal and boiling temperatures, e. g., in sulfuric acid of up to 80% concentration, hydrochloric acid, organic acids, caustic soda, ammonia, solutions of ammonium salts, dinitrophenols, hydrogen sulfide, alcohol, formaldehyde, organic solvents of the polar and non-polar type. In oxidizing media the material is destroyed. The graphite parts are impregnated with ТУМХП 307-54 (ТУМХП 307-54) benzene-sulfonic acid solved in acetone in a proportion of 1:1. The impregnation is carried out at normal temperatures and pressures. The impregnation time depends

X

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## Corrosion-Resistant Graphite Materials

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S/125/60/000/008/012/018  
A004/A001

on the thickness of the component and amounts to 15-18 hours for a graphite block of 7-8 cm thickness. Then the graphite part is placed in an autoclave where it is vacuum-treated for 2 hours, at a vacuum of 720 - 740 mm Hg and a temperature in the range of 40 - 60°C. By this way the graphite is freed from acetone and air. Then the furfural-acetone resin in the form of a 50% acetone solution, containing 4% of the benzenesulfonic acid solidifying agent, is sucked into the autoclave. The graphite is resin-impregnated in the course of 3-5 hours at 40°C and a pressure of 8 - 10 atm. Then the graphite parts are heat-treated at the same pressure while the temperature is gradually raised up to 200°C under the following conditions: 4 hours at 60°C, 2 hours at 80°C, 2 hours at 80 - 100°C, 2 hours at 120 - 160°C, 2 hours at 160 - 180°C, 2 hours at 180 - 200°C and an additional treatment at 225 - 250°C for 3 hours without pressure. The graphite treated in the way mentioned above is absolutely liquid-tight and gas-tight. The heat conductivity amounts to 90 - 120 kcal/hour degree · cm, while the thermal diffusivity is 0.205 - 0.328 m<sup>2</sup>/hour. Graphite specimens which were subjected to various tests at boiling temperatures for 16 hours in aggressive media did not change their properties. By the end of 1957, fractionating-column parts made of graphite treated with furfural-acetone resin were employed at the Kishinevskiy uksusnokislotnyy zavod (Kishinev Acetic Acid Plant). Up to the present no changes in the properties of these parts could be observed.

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S/191/60/000/009/009/010  
B013/B055

AUTHOR: Itinskiy, V. I.  
TITLE: Seminars on Reinforced Plastic Concrete and Its Use for  
Structural Purposes

PERIODICAL: Plasticheskiye massy, 1960, No. 9, pp. 77 - 78

TEXT: The author gives a report on the seminars held in 1959 and 1960. The NIIPM (Scientific Research Institute of Plastics), kafedra plasticheskikh mass MKhTI im. Mendeleyeva (Department of Plastics of the Moscow Institute of Chemical Technology imeni D. I. Mendeleyev) and the TsNIIPodzemshakhtostroy ASia SSSR (Central Scientific Research Institute Podzemshakhtostroy of the Academy of Construction and Architecture USSR) carried out experimental studies on the preparation of organic-mineral plastic concrete which proves the practical importance of this material for the construction of underground- and industrial buildings resistant to water and aggressive mediums. This prompted the Presidium of the ASia SSSR to supplement the scientific research program for 1960 of several institutes of the Academy by the complex subject "Reinforced Plastic

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Seminars on Reinforced Plastic Concrete and  
Its Use for Structural Purposes

S/191/60/000/009/009/010  
B013/B055

Concrete and Its Constructional Application in Buildings and Industrial Buildings". Professor S. S. Davydov, Vice-president of the Academy, Doctor of Technical Sciences, was entrusted with the supervision of these studies. Five seminars were held in 1959 for the following institutes partaking in this research work: TsNII Podzemshakhtostroy, NII ZhB (Scientific Research Institute of Concrete and Reinforced Concrete), VNII novykh stroitel'nykh materialov (All-Union Scientific Research Institute of New Building Materials), NII stroitel'noy fiziki i ogranichayushchikh konstruktivnykh (Scientific Research Institute of Physics of Construction and Protective Structures), NII osnovaniy (Scientific Research Institute of Foundations), TsNIISK (Central Scientific Research Institute of Structural Parts), VODGEO, and others. The various subjects for research were distributed among the institutes and from time to time the institutes exchanged their experiences. In 1960, further institutes joined the work of the seminars, i.e. the VNIIST (All-Union Scientific Research Institute for Construction of Main Pipelines), Soyuzdornii (State All-Union Scientific Research Institute of Roads and Highways), TsNIL-3, Voenno-inzhenernaya akademiya im. Kuybysheva (Military Engineering Academy imeni Kuybyshev), Avtodorozhnyy institut (Automobile Highway Institute), and

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Seminars on Reinforced Plastic Concrete and  
Its Use for Structural Purposes

S/191/60/000/009/010  
B013/B055

other scientific organizations. Work was carried with two main objects:  
1) Finding out and investigation of plastic concretes in which the cement  
binder was completely replaced by polymeric materials, and 2) modification  
of concretes by introduction of various polymers. As a result, concretes  
were developed the physical, mechanical, chemical, and other properties  
of which could be controlled most far-reaching. The seminars held in  
1959 and 1960 heard and discussed 20 communications on the scheduled  
work on testing of plastic concrete on the basis of furfural acetone  
monomer of the type "FA" (FA). The seminar stated the potential ranges  
of use of plastic concrete to be manifold and promising. The preparation  
of plastic concretes modified by various types of polymers, such as, e.g.,  
rubber latex, polyvinyl acetate emulsions etc. was noted as being of  
importance. These new materials which possess numerous advantageous  
properties in comparison to conventional concretes, have contributed to  
the development of a new production technique. A special mixer with  
mechanical mixing of components by cyclic vibration of the entire appara-  
tus was developed. Shortcomings of the production technique were  
discussed at the seminars and suggestions for their elimination were made.  
This research work, which the seminars based on the physicommechanical

Card 3/4

Seminars on Reinforced Plastic Concrete and  
Its Use for Structural Purposes

S/191/60/000/009/010  
B013/8055

theory of P. A. Rebinder, Academician, rendered it possible to establish the kinetics of the processes occurring during the setting of plastic concrete and to develop high-quality materials. In addition to all the positive properties of reinforced concrete, reinforced plastic concrete possesses a number of valuable properties which make it a promising building material for the future. About 60 people took part in the seminars held since 1959, the number of participants increasing from one seminar to the next. Mention is made of Petrov.

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87431

S/191/60/000/010/003/017  
B004/B060

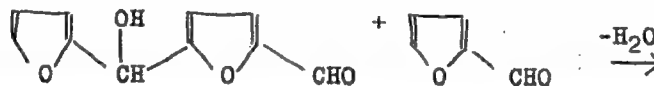
15-8111

AUTHORS: Kamenskiy, I. V., Ungurean, N. V., Itinskiy, V. I.

TITLE: The Process of Resin Formation From Furfurole

PERIODICAL: Plasticheskiye massy, 1960, No. 10, pp. 8-12

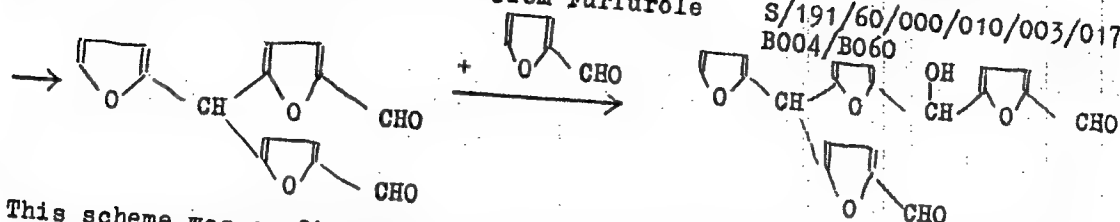
TEXT: The authors wanted to clarify the resinification process of furfurole. The latter was resinified in the presence of 1% benzene sulfonic acid at 70-130°C either without solvent or dissolved in toluene or water. The number of aldehyde groups, the bromine number, acidity, oxime number, and amount of water liberated in the reaction were determined, and the resulting resin was subjected to an elementary analysis. In boiling toluene furfurole is resinified within 12 hours, 0.35 mole H<sub>2</sub>O being separated per mole of furfurole. A reaction of the aldehyde group with the α-hydrogen atom of the furan ring is assumed to have the following course:



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# The Process of Resin Formation From Furfurole

87431



This scheme was confirmed by a study of the resinification of the following compounds. 5-methyl furfural : this one resinifies more slowly than furfural under separation of 1 mole  $H_2O$  per 2 moles of 5-methyl furfural. Tetrahydro furfural : At  $100^{\circ}C$  this one yields a soluble resin which is hardened only at a higher temperature ( $130-160^{\circ}C$ ) under separation of 1 mole  $H_2O$  per 2 moles of tetrahydro furfural. Furfurylidene glycol acetate: this compound condenses at  $100^{\circ}C$  under separation of glycol and gives rise to a resin with a ramified structure, in which the furan rings are interconnected in  $\alpha, \alpha'$ -position. The furan ring is conserved in all resins. Resinification in water in the presence of benzene sulfonic acid confirmed the data contained in the literature. In this case the furan ring is expected to split and the resulting amber

Card 2/3

87645

15.811

S/191/60/000/012/004/016  
B020/B066

AUTHORS:

Kamenskiy, I. V., Ungurean, N. V., Kovarskaya, B. M.,  
Itinskiy, V. I.

TITLE:

Polymers on the Basis of Condensation Products of Furfurol  
With Acetone. Report No. 2. Hardening of Furfurylidene- and  
Difurfurylidene Acetone in the Presence of Acid Catalysts

PERIODICAL:

Plasticheskiye massy, 1960, No. 12, pp. 9 - 13

TEXT: Investigations carried out in recent years by the kafedra plasti-  
cheskikh mass MKhTI im. D. I. Mendeleyeva (Department of Plastics of the  
Moscow Institute of Chemical Technology imeni D. I. Mendeleyev) and NIIPM  
(Nauchno-issledovatel'skiy institut plasticheskikh mass - Scientific  
Research Institute of Plastics) revealed that condensation products of  
furfurol with various ketone form hardening resins in the presence of  
mineral acids. In the present paper, results of an investigation of the  
formation and cure of polymers on the basis of furfurylidene- and di-  
furfurylidene acetone are given, which are formed in the condensation of  
furfurol with acetone. The effect of ionic catalysts was thoroughly

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Polymers on the Basis of Condensation Products of Furfurole With Acetone. Report No. 2. S/191/60/000/012/004/016  
 Hardening of Furfurylidene- and Difurfurylidene B020/B066  
 Acetone in the Presence of Acid Catalysts

studied, as these catalysts permit the production of cured polymers. The experiments were made at 70 - 100°C up to resinification, and at 160 - 200°C up to complete cure. The results of studying the effect of some ionic catalysts are presented in Table 1.  $\text{CdCl}_2$  and  $\text{CaCl}_2$  do not promote resinification, but give with the monomer an infusible complex which is insoluble in organic solvents and decomposes with water. Sulfuric acid is a good catalyst for the cure. The best ionic catalysts were aromatic sulfonic acids. Benzene sulfonic acid has many advantages compared with all other catalysts. It was found by experiments that the cure of furfurylidene acetone proceeds in three steps under the action of ionic catalysts, mainly benzene sulfonic acid: 1) Transition of furfurylidene acetone to a resinous state. The resin is soluble in acetone, dioxane, and other organic solvents; the reaction rate depends on the quantity of catalyst and on temperature. The resin is low-molecular in this state (Fig. 1); transition from the vitreous to the viscous state takes place in a narrow range of temperature. A range of high elasticity could not

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Polymers on the Basis of Condensation Products of Furfurole With Acetone. Report No. 2. S/191/60/000/012/004/016  
 Hardening of Furfurylidene- and Difurfurylidene B020/B066  
 Acetone in the Presence of Acid Catalysts

be found. The bromine number of the resin in this state was 254, as compared to 345 in the case of furfurylidene acetone (Table 2), whereas the oxime number dropped from 422 to 210. The molecular weight of the resin does not exceed 1200. Polycondensation takes place under water separation (Table 3). 2) In the second stage, a resin is formed which is not soluble and only swells in organic solvents. On prolonged cure, an intenser cross-linking of molecules takes place, and deformation of samples decreases (Fig. 2). The conditions for curing samples whose thermomechanical characteristics were determined, are given (Table 4). The rate of curing is temperature-dependent. 3) In the third stage, the cured resin is infusible and insoluble which is characteristic of spatially interlaced polymers. Difurfurylidene acetone polymerizes at 180°C without a catalyst, and is cured in the presence of catalysts, which takes place as well in three steps. Fig. 3 shows the thermomechanical characteristics of three samples whose curing conditions are given in Table 4, and Fig. 4 shows the thermomechanical curves, recorded by a dynamometric scale, for samples obtained by heating to 80°C for 10 - 150 min. Table 6 gives the

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Polymers on the Basis of Condensation Products  
of Furfurole With Acetone. Report No. 2.  
Hardening of Furfurylidene- and Difurfurylidene  
Acetone in the Presence of Acid Catalysts

S/191/60/000/012/004/016  
B020/B066

bromine and oxime numbers for difurfurylidene acetone and resin in the first stage of cure. The thermomechanical curves for difurfurylidene resin in the second (Fig. 5) and in the third (Fig. 6) stage of cure are presented. The elementary composition of the cured difurfurylidene acetone resin is given in Table 7. There are 6 figures, 7 tables, and 4 Soviet references. X

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S/191/61/000/001/015/015  
B101/B205

AUTHOR: Itinskiy, V. I.

TITLE: Use of plastic concrete in the construction of chemical machinery and machine tools at plants of the Luganskoye sovnarkhoz

PERIODICAL: Plasticheskiye massy, no. 1, 1961, 76-77

TEXT: On account of the high chemical resistance of furfural-acetone polymer and of the plastic concrete obtained on the basis of the latter, it is being used in several plants of the Luganskiy sovnarkhoz (Luganskoye sovnarkhoz) where chemically aggressive substances are processed. Some applications are mentioned, including 1) a floor with an area of approximately 62 m<sup>2</sup> which was practicable on the following day, and was subjected to the action of sulfuric acid, hydrochloric acid, and organic solvents. After a period of six months the modulus of elasticity showed no change (120,000 kg/cm<sup>2</sup>), and the floor was still in perfect condition. 2) A working area of 23 m<sup>2</sup> outside the building, covered with plastic concrete and exposed to the action of mineral acids. No wear after six

✓

Card 1/2

Use of plastic concrete...

S/191/61/000/001/015/015  
B101/B205

months. 3) On June 8, 1960 the adjoining basement of a washing tower for 20% sulfuric acid was lined with plastic concrete (thickness: 7-10 mm). No change observed so far. 4) By relieving the internal stresses during hardening, a right-angled monolithic tank 600-400-450 mm large was manufactured without reinforcement. The tank withstood the action of 10% sulfuric acid for 45 days, and is now being tested with 20% sulfuric acid. A new plant for the synthesis of furfural-acetone monomer of the type "FA" ("FA") will be put in operation within the first quarter of 1961. Thus, the basis for the production of plastic concrete in the Ukraine will be substantially extended. A Cottrell filter, a column for ammonia synthesis, and tanks for mineral acids and petroleum products are intended to be built. Plastic concrete has also found application in the manufacture of machine parts, for bases of machine tools in China, especially for big planing machines, and also for tubes serving as pillars of screw cutters. The use of cement-free plastic concrete will permit further reductions of weight. ✓

Card 2/2

S/191/61/000/004/009/009  
B110/B208

AUTHOR: Itinskiy, V. I.

TITLE: All-Union Conference on the Production and Use of Furan  
Plastics and Plastic concrete

PERIODICAL: Plasticheskiye massy, no. 4, 1961, 68

TEXT: The All-Union Conference on the Production and Use of Furan Plastics and Plastic Concrete took place at Severodonetsk, Lugansk oblast, February 1-3, 1961. It had been convened by the Ukrainskiy sovnarkhoz (Ukrainian sovnarkhoz), the Gos Komitet Soveta Ministrov SSSR po khimii (State Committee on Chemistry of the Council of Ministers USSR), the Akademiya stroitel'stva i arkhitektury SSSR (Academy of Building and Architecture USSR), and the Lugansk sovnarkhoz. More than 300 shock workers, engineering and technical workers of the plastics industry, constructors, hydraulic and amelioration workers, experts of other branches of national economy, and more than 30 representatives of the sovnarkhoz of the Union Republics attended the Conference. The delegates visited laboratories, design offices, and chemical plants of the Lugansk sovnarkhoz, which use furan

Card 1/4

All-Union Conference on the production...

S/191/61/000/004/009/009  
B110/B208 ✓

plastics and plastic concrete. G. I. Vilesov, Head of the Chemical Administration of the Ukrainian sovnarkhoz, emphasized the importance of developing the production of furfural and various furan resins. The Ukrainskaya SSR is able to increase the production of furfural from vegetable wastes (corn stalks, grasses, sunflower husks) to hundreds of thousands of tons. Plastic concrete on the basis of FA (FA) monomer is used in chemical engineering as a substitute for non-ferrous and ferrous metals and alloyed steels. At present, the use of plastic concrete is particularly important to the manufacture of containers for liquid fertilizers. Discussing the work of several organizations and plants regarding the utilization of plastic concrete, G. I. Vilesov recommended the establishment of a center for the coordination of research and production. V. M. Kozin reported on the work of the OKBSP of the Lugansk sovnarkhoz on the utilization of monomeric furan compounds, the development of BTY (VTU) and instructions, and on the introduction of plastic concrete in the chemical industry. Ye. M. Arnol'dov underscored the necessity of applying furan plastics in the chemical industry and agriculture of the Ukrainskaya SSR. I. V. Kamenskiy (MKhTI imeni Mendelsyev) spoke on the chemism of the manufacturing and hardening processes of monomers of the

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